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Ohsako et al.(10) **Pub. No.: US 2004/0061935 A1**(43) **Pub. Date: Apr. 1, 2004**(54) **PROJECTION SCREEN AND METHOD FOR
MANUFACTURING THE SAME****Publication Classification**(51) **Int. Cl.⁷** **G03B 21/56; G03B 21/60**(52) **U.S. Cl.** **359/449; 359/452**(75) Inventors: **Junichi Ohsako**, Tokyo (JP);
Masayasu Kakinuma, Kanagawa (JP);
Hideya Chubachi, Tokyo (JP); **Hiroshi**
Hayashi, Kanagawa (JP)(57) **ABSTRACT**

Correspondence Address:

Randy J. Pritzker
Wolf, Greenfield & Sacks, P.C.
600 Atlantic Avenue
Boston, MA 02210 (US)

A projection screen includes a plurality of convex portions serving as a light diffusion control portion, on the surface of a substrate. An optical thin film overlies the substrate and has convex portions having the same shape as that of the convex portions of the substrate. When external light enters the optical thin film with light in three primary color wavelength bands, the optical thin film reflects only the light in the three color wavelength bands and absorbs at least visible light of the external light. When light in the three primary color wavelength bands perpendicularly enters the optical thin film, the rays of the light have incident angles at the convex portions of the optical thin film and diffuse-reflected at angles twice the incident angles. Thus, a predetermined percentage of the light is diffused to increase the viewing angle of the screen.

(73) Assignee: **Sony Corporation**, Tokyo (JP)(21) Appl. No.: **10/614,688**(22) Filed: **Jul. 7, 2003**(30) **Foreign Application Priority Data**

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